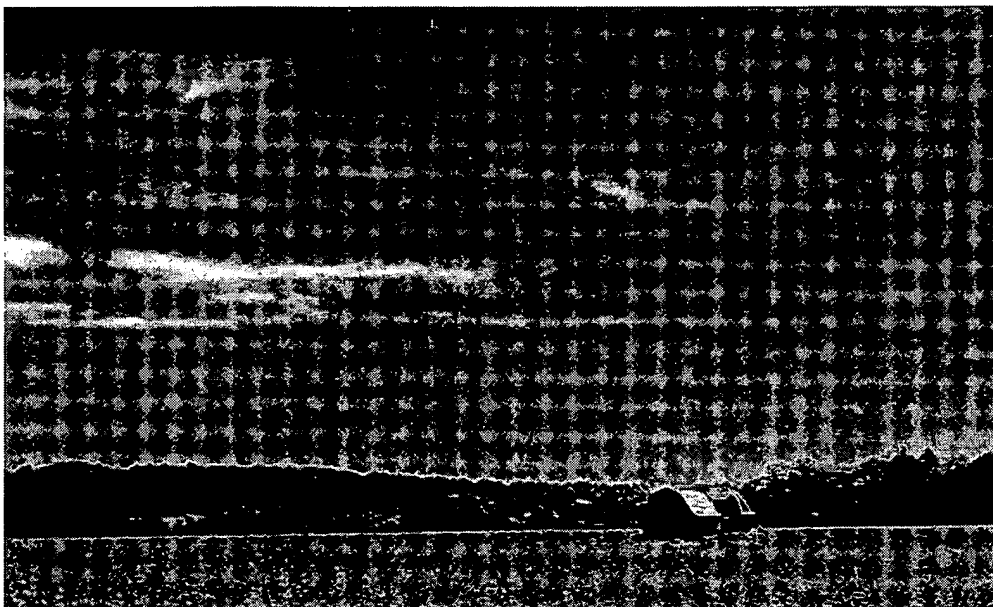


Power MOSFETs progress in power switching

Selection guide



May 2005

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MDmesh product range

Part number	V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Q _g (typ) @ 10V [nC]	R _{DS(on)} *Q _g (typ) [Ω * nC]	I _{D(cont)} [A]	Package	T _{rr} (typ) @ 25°C [ns]	Q _{rr} (typ) @ 25°C [μC]	I _{rrm} (typ) @ 25°C [A]	dv/dt [V/ns]
STE70NM50	500	0.05	190	190	70	ISOTOP	532	9.9	37	15
STY60NM50	500	0.05	190	190	60	Max247	532	9.9	37	15
STW45NM50FD	500	0.1	92	6.44	45	TO-247	245	2.2	18	20
STE48NM50	500	0.1	87	6.96	48	ISOTOP	520	7.8	30	15
STW45NM50	500	0.1	87	6.96	45	TO-247	520	7.8	30	15
STW26NM50	500	0.12	76	7.6	30	TO-247	400	5.5	27.5	15
STB25NM50NT4*	500	0.14	40	4.8	22	D ² PAK				
STB25NM50N-1*	500	0.14	40	4.8	22	I ² PAK				
STP25NM50N*	500	0.14	40	4.8	22	TO-220				
STF25NM50N*	500	0.14	40	4.8	22	TO-220FP				
STW25NM50N*	500	0.14	40	4.8	22	TO-247				
STB20NM50FDT4	500	0.25	38	8.36	20	D ² PAK	175	1.2	14	20
STP20NM50FD	500	0.25	38	8.36	20	TO-220	175	1.2	14	20
STW20NM50FD	500	0.25	38	8.36	20	TO-247	175	1.2	14	20
STB20NM50T4	500	0.25	40	8	20	D ² PAK	350	4.6	26	15
STB20NM50-1	500	0.25	40	8	20	I ² PAK	350	4.6	26	15
STP20NM50	500	0.25	40	8	20	TO-220	350	4.6	26	15
STP20NM50FP	500	0.25	40	8	20	TO-220FP	350	4.6	26	15
STW20NM50	500	0.25	40	8	20	TO-247	350	4.6	26	15
STB12NM50T4	500	0.35	28	8.4	12	D ² PAK	270	2.23	16.5	15
STB12NM50-1	500	0.35	28	8.4	12	I ² PAK	270	2.23	16.5	15
STP12NM50	500	0.35	28	8.4	12	TO-220	270	2.23	16.5	15
STP12NM50FP	500	0.35	28	8.4	12	TO-220FP	270	2.23	16.5	15
STW14NM50	500	0.35	28	8.4	12	TO-247	270	2.23	16.5	15
STB12NM50FDT4	500	0.4	27.5	8.8	12	D ² PAK	116	0.46	8	20
STB12NM50FD-1	500	0.4	27.5	8.8	12	I ² PAK	116	0.46	8	20
STP12NM50FD	500	0.4	27.5	8.8	12	TO-220	116	0.46	8	20
STP12NM50FDFP	500	0.4	27.5	8.8	12	TO-220FP	116	0.46	8	20
STW14NM50FD	500	0.4	27.5	8.8	14	TO-247	116	0.46	8	20
STD5NM50T4	500	0.8	13	9.1	7.5	DPAK	185	1.1	11.5	15
STP8NM50	500	0.8	13	9.1	7.5	TO-220	185	1.1	11.5	15
STP8NM50FP	500	0.8	13	9.1	7.5	TO-220FP	185	1.1	11.5	15
STD3NM50T4	500	3	5.5	13.75	3	DPAK	210	0.79	7.5	15
STE70NM60	600	0.055	178	8.9	70	ISOTOP	600	14.4	48	15
STY60NM60	600	0.055	178	8.9	60	Max247	600	14.4	48	15
STW45NM60	600	0.11	96	8.64	45	TO-247	508	10	40	15
STW26NM60	600	0.135	73	9.125	30	TO-247	73	45	30.5	15
STW30NM60D	600	0.145	73	10.25	30	TO-247	165	1.1	14	20
STB25NM60NT4*	600	0.17			20	D ² PAK				
STB25NM60N-1*	600	0.17			20	I ² PAK				

* Coming soon Fast diode version in blue characters

MDmesh product range

Part number	V _{DS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Q _g (typ) @ 10V [nC]	R _{DS(on)} *Q _g (typ) [Ω · nC]	I _{D(cont)} [A]	Package	T _{rr} (typ) @ 25°C [ns]	Q _{rr} (typ) @ 25°C [μC]	I _{rrm} (typ) @ 25°C [A]	dv/dt [V/ns]
STP25NM60N*	600	0.17			20	TO-220				
STF25NM60N*	600	0.17			20	TO-220FP				
STW25NM60N*	600	0.17			20	TO-247				
STP20NM60FD	600	0.29	40	9.62	20	TO-220	170	1.06	12.5	20
STW20NM60FD	600	0.29	40	9.62	20	TO-247	170	1.06	12.5	20
STB20NM60T4	600	0.29	39	9.75	20	D ² PAK	390	2	25	15
STP20NM60	600	0.29	39	9.75	20	TO-220	390	2	25	15
STP20NM60FP	600	0.29	39	9.75	20	TO-220FP	390	2	25	15
STW20NM60	600	0.29	96	9.75	20	TO-247	390	2	25	15
STB11NM60FDT4	600	0.45	28	11.2	11	D ² PAK	190	1.1	14.5	20
STB11NM60FD-1	600	0.45	28	11.2	11	I ² PAK	190	1.1	14.5	20
STP11NM60FD	600	0.45	28	11.2	11	TO-220	190	1.1	14.5	20
STP11NM60FDFP	600	0.45	28	11.2	11	TO-220FP	190	1.1	14.5	20
STB11NM60T4	600	0.45	30	11.2	11	D ² PAK	390	3.8	19.5	15
STB11NM60-1	600	0.45	30	11.2	11	I ² PAK	390	3.8	19.5	15
STP11NM60	600	0.45	30	11.2	11	TO-220	390	3.8	19.5	15
STP11NM60FP	600	0.45	30	11.2	11	TO-220FP	390	3.8	19.5	15
STD5NM60T4	600	1	13	11.7	5	DPAK	300	1.95	13	15
STD5NM60-1	600	1	13	11.7	5	IPAK	300	1.95	13	15
STP8NM60	600	1	13	11.7	8	TO-220	300	1.95	13	15
STP8NM60FP	600	1	13	11.7	8	TO-220FP	300	1.95	13	15
STD3NM60T4	600	1.5	10	19.2	3	DPAK	224	1	9	15
STD2NM60T4	600	3.2	6	14	2	DPAK	516	0.516	2	15
STB11NM80T4	800	0.4	40	14	11	D ² PAK	612	7.22	23.6	
STP11NM80	800	0.4	40	14	11	TO-220	612	7.22	23.6	
STF11NM80	800	0.4	40	14	11	TO-220FP	612	7.22	23.6	
STW11NM80	800	0.4	40	14	11	TO-247	612	7.22	23.6	

SuperFREDmesh product range

Part number	V _{DS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Q _g (typ) @ 10V [nC]	R _{DS(on)} *Q _g (typ) [Ω · nC]	I _{D(cont)} [A]	Package	T _{rr} (typ) @ 25°C [ns]	Q _{rr} (typ) @ 25°C [μC]	I _{rrm} (typ) @ 25°C [A]	dv/dt [V/ns]
STW29NK50ZD*	500	0.15	180	19.8	29	TO-247				8
STB9NK60ZDT4	600	0.95	41	43.85	7	D ² PAK	150	0.663	8.5	15
STP9NK60ZD	600	0.95	41	34.85	7	TO-220	150	0.663	8.5	15
STF9NK60ZD	600	0.95	41	34.85	7	TO-220FP	150	0.663	8.5	15
STE45NK80ZD	800	0.13	558	61.38	45	ISOTOP	375	4.65	24.8	8
STE40NK90ZD	900	0.17	590	82.6	40	ISOTOP	450	3.6	16.2	8

* Coming soon Fast diode version in blue characters

SOT23-3L

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
60	5	2N7002	0.25	5.3	5.00

SOT23-6L

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
-60	0.3	STT2PF60L	-2	0.30	10.00
-30	0.2	STT3PF30L	-3	0.20	11.00

V _{DSS} [V]	R _{DS(on)} (max) @ 4.5V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 2.7V [Ω]	Q _g (typ) @ 4.5V [nC]
-20	0.2	STT3PF20V	-3	0.25	3.80
	0.08	STT5PF20V	-5	0.1	9.3

TSSOP8

V _{DSS} [V]	R _{DS(on)} (max) @ 4.5V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 2.7V [Ω]	Q _g (typ) @ 4.5V [nC]
20	0.04	STC5NF20V	5	0.045	8.5
30	0.025	STC6NF30V	6	0.030	11.0
	0.031	STC5NF30V	5	0.035	8.5

SOT-223

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 10V [Ω]	Q _g (typ) @ 10V [nC]
-60	0.2	STN3PF06	-2.5		16

V _{DSS} [V]	R _{DS(on)} (max) @ 4.5V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 2.7V [Ω]	Q _g (typ) @ 4.5V [nC]
-20	0.08	STN5PF02V	-5	0.1	9.3

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
30	0.05	STN4NF03L	4	0.06	12
60	0.10	STN3NF06L	3	0.12	12
100	0.26	STN2NF10	2		10
	0.80	STN1NF10	1		4
200	1.5	STN1NK20*	1		11
600	15	STN1NK60Z	0.3		4.9
800	16	STN1NK80Z*	0.3		5

* Coming soon V = Super logic level ◇ STripFET technology

PowerFLAT 3.3 x 3.3

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
30	0.015	STL8NH3LL	8	0.017	18

PowerFLAT 5 x 5

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
650	1.8	STL5NK65Z	5		31

PowerFLAT 6 x 5

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 2.7V [Ω]	$Q_g(typ)$ @ 4.5V [nC]
20	0.003	STL120NH02V*	120	0.004	60

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
30	0.0130	STL50NH3LL	27	0.015	18
	0.0055	STL80NF3LL*	80	0.007	55
	0.0035	STL100NH3LL*	100	0.005	70

PowerSO-8

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
30	0.0035	STSJ100NH3LL	100	0.005	70
	0.0055	STSJ80NF3LL*	80	0.007	55
	0.0105	STSJ25NF3LL	25	0.013	40
	0.019	STSJ18NF3LL	18	0.019	22

SO-8

V_{DSS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 4.5V [nC]
-60	0.120	STS4C3F60L	-3	0.160	23.5
60	0.055		4	0.065	32
-60	0.12	STS3DPF60L	-3	0.160	23.5
-45	0.10	STS3DPFS45	-3		24.5
-30	0.014	STS10PF30L	-10	0.018	60
	0.021	STS7PF30L	-7	0.028	60
	0.03	STS6PF30L	-6	0.040	35
	0.08	STS4DPF30L	-4	0.10	30
	0.08	STS5PF30L	-5	0.10	30

* Coming soon V = Super logic level LL = 4.5V drive optimization

SO-8 cont'd

V_{DS} [V]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 2.7V [Ω]	$Q_g(typ)$ @ 4.5V [nC]
-20	0.08	STS5PF20V	-5	0.1	9.3
	0.2	STS2DPFS20V	-2	0.25	3.8

V_{DS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
-20	0.07	STS4DPF20L	-4	0.085	30

V_{DS} [V]	$R_{DS(on)}(max)$ @ 4.5V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 2.7V [Ω]	$Q_g(typ)$ @ 4.5V [nC]
20	0.04	STS6NF20V	6	0.045	8.5
	0.04	STS5DNF20V	5	0.045	8.5

V_{DS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
-30	0.055	STS8C5H30L	-4.2	0.075	12.5
	0.022		8	0.025	7
	0.0035	STS25NH3LL	25	0.005	70
	0.0055	STS17NF3LL	17	0.007	55
30	0.009	STS12NF30L	12	0.011	66
	0.0105	STS12NH3LL	12	0.013	
	0.0105	STS11NF30L	11	0.019	33
	0.02	STS9NF30L	9	0.038	22
	0.02	STS8DNF3LL	8	0.023	22
	0.022	STS8DNH3LL	8	0.025	16
	0.05	STS4DNFS30L	4	0.06	12
	0.11	STS2DNF30L	2	0.15	4.5
	0.055	STS4DNF60L	4	0.065	32
	0.055	STS5NF60L	5	0.065	32
60	0.23	STS2DNE60	2		12
100	0.06	STS4NF100	4		30
450	4.5	STS1DNC45	0.4		7
600	8.5	STS1HNK60	0.8		7
	15	STS1NK60Z	0.3		4.9

DPAK

V_{DS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(typ)$ @ 10V [nC]
-60	0.2	STD10PF06T4	-10		16
-30	0.028	STD30PF03LT4	-24	0.04	35
24	0.0035	STD150NH02LT4	150	0.0065	69
	0.0048	STD100NH02LT4	60	0.009	62

* Coming soon V = Super logic level D = Dual DPFS = P-Channel + Schottky diode C = Complementary pair
LL = 4.5V drive optimization

DPAK

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
24	0.005	STD95NH02LT4	80	0.009	43
	0.006	STD90NH02LT4	60	0.011	47.5
	0.008	STD70NH02LT4	60	0.014	32
	0.0105	STD50NH02LT4	50	0.02	24
	0.011	STD55NH2LLT4	40	0.0135	20
	0.0135	STD38NH02LT4	38	0.025	18
30	0.0055	STD100NH03LT4	60	0.0105	57
	0.009	STD60NH03LT4	60	0.017	
	0.0095	STD60NF3LLT4	60	0.0105	54
	0.011	STD40NF03LT4	40	0.0195	33
	0.011	STD40NF3LLT4	40	0.0135	40
	0.0195	STD35NF3LLT4	35	0.0215	22
	0.025	STD30NF03LT4	30	0.035	31
	0.05	STD17NF03LT4	17	0.06	9
55	0.015	STD60NF55LT4	60	0.02	72
	0.016	STD60NF06T4	60		49
	0.0195	STD35NF06LT4	35	0.0215	50
	0.02	STD35NF06T4	35		45
	0.028	STD30NF06T4	28		43
	0.028	STD30NF06LT4	28	0.03	42
	0.04	STD20NF06T4	20		23
	0.04	STD20NF06LT4	20	0.048	13
	0.07	STD16NF06T4	16		14
	0.07	STD16NF06LT4	16		25
60	0.1	STD12NF06T4	12		10
	0.1	STD12NF06LT4	12	0.12	12
100	0.035	STD25NF10LT4	25	0.04	70
	0.038	STD25NF10T4	25		55
	0.065	STD15NF10T4	23		30
	0.085	STD16NE10LT4	22	0.1	45
	0.13	STD10NF10T4	13		15
	0.25	STD6NF10T4	6		10
200	0.125	STD20N20T4 [◇]	18		28
	0.8	STD5N20T4 [◇]	5		19
		STD5N20LT4 [◇]	5	0.7	
250	1.10	STD4NS25T4	4		19
400	1.00	STD7NK40ZT4	6		20
450	1.80	STD5NK40ZT4	4		12
	4.50	STD2NC45T4	1.5		7
500	0.8	STD5NM50T4	7.5		13
	1.2	STD6NK50ZT4	5.6		24.6
	1.5	STD5NK50ZT4	4.4		20
	2.7	STD4NK50ZT4	3		12

* Coming soon LL = 4.5V drive optimization [◇] StripFET technology

DPAK cont'd.

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
500	3	STD3NM50T4	3		5.5
	3.3	STD3NK50ZT4*	2.3		11
600	1	STD5NM60T4	5		13
	1.5	STD3NM60T4	3		10
	1.6	STD5NK60ZT4	5		25
	2	STD4NK60ZT4	4		19
	3.2	STD2NM60T4	2		6
	3.6	STD3NK60ZT4	3		12.5
	5	STD1HNC60T4	1.3		11.3
	8.5	STD1NK60T4	1		7
700	7	STD2NK70ZT4*	1.6		11.4
800	3.5	STD4NK80ZT4	3		22.5
	4.5	STD3NK80ZT4	2.5		18
	16	STD1NK80ZT4*	1		5
900	4.80	STD3NK90ZT4	2.8		25
	6.50	STD2NK90ZT4	2.1		19.5

D²PAK

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
-60	0.1200	STB16PF06LT4	-16	0.16	23.5
-55	0.0180	STB80PF55T4	-80		190.0
24	0.006	STB100NH02LT4	80	0.011	47.5
	0.008	STB75NH02LT4	60	0.014	32
	0.0105	STB60NH02LT4	60	0.02	24
	0.0032	STB100NF03L-03T4	100	0.0045	160
30	0.0033	STB160NF3LLT4	160	0.0048	150
	0.0036	STB200NF03T4	120		113
	0.004	STB80NF03L-04T4	80	0.0055	150
	0.0055	STB120NH03LT4	60	0.0105	57
	0.008	STB85NF3LLT4	85	0.0095	54
	0.009	STB70NH03LT4	60	0.017	
	0.0095	STB70NFS03LT4	70	0.018	33
	0.0095	STB70NF03LT4	70	0.018	33
	0.0095	STB70NF3LLT4	70	0.012	40
	0.013	STB55NF03LT4	55	0.021	35
	0.018	STB45NF3LLT4	45	0.02	22
40	0.0037	STB200NF04T4	120		170
	0.0046	STB100NF04T4	120		110
55	0.006	STB150NF55T4	120		140

* Coming soon LL = 4.5V drive optimization



D²PAK

V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
55	0.0065	STB80NF55-06T4	80		140
	0.0065	STB80NF55L-06T4	80	0.008	175
	0.008	STB80NF55-08T4	80		115
	0.008	STB80NF55L-08T4	80	0.01	110
	0.08	STB140NF55T4	80		142
60	0.014	STB60NF06LT4	60	0.016	65
	0.016	STB60NF06T4	60		49
	0.018	STB55NF06LT4	55	0.02	50
	0.018	STB55NF06T4	55		45
	0.028	STB45NF06T4			43
	0.04	STB36NF06LT4	30	0.048	13
	0.1	STB16NF06LT4	16	0.12	12
75	0.0080	STB140NF75T4	140		150
100	0.0105	STB120NF10T4	120		172
	0.015	STB80NF10T4	80		135
	0.028	STB40NF10T4	40		60
	0.033	STB40NF10LT4	40	0.036	60
	0.035	STB35NF10T4	40		55
150	0.045	STB30NF10T4	35		40
	0.0520	STB40NS15T4	40		100
250	0.15	STB22NS25T4	20		120
	0.28	STB16NS25T4	16		59
400	0.55	STB11NK40ZT4	9		30
500	0.14	STB25NM50NT4*	22		40
	0.25	STB20NM50FDT4	20		38
	0.25	STB20NM50T4	20		40
	0.27	STB20NK50ZT4	18		95
	0.34	STB15NK50ZT4	14		76
	0.35	STB12NM50T4	12		28
	0.4	STB12NM50FDT4	12		27.5
	1.5	STB5NK50ZT4	4.4		20
600	0.17	STB25NM60NT4*	20		
	0.29	STB20NM60T4	20		39
	0.45	STB11NM60T4	11		30
	0.45	STB11NM60FDT4	11		28
	0.5	STB14NK60ZT4	13.5		75
	0.95	STB9NK60ZT4	9		40
	0.95	STB9NK60ZDT4	7		41
	1.2	STB6NK60ZT4	6		33
	2	STB4NK60ZT4	4		19
	3.6	STB3NK60ZT4	3		12.5
700	1.20	STB9NK70ZT4	7.5		48
800	0.40	STB11NM80T4	11		40
	0.75	STB12NK80ZT4	10.5		87

* Coming soon LL = 4.5V drive optimization Fast diode version in blue characters

PowerSO-10



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
20	0.0025	STV160NF02LT4	160	0.0060	115
	0.0027	STV160NF02LAT4	160	0.0064	130
30	0.0028	STV160NF03LT4	160	0.0067	103
	0.003	STV160NF03LAT4	160	0.0070	123

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V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
60	5	2N7000	0.35	5.30	
100	0.4	STQ1NE10L-AP	1	0.50	16
450	4.5	STQ1NC45R-AP	0.5		7
500	3.3	STQ3NK50ZR-AP	0.5		11
	4.8	STQ2HNK60ZR-AP			11
600	8	STQ2NK60ZR-AP	0.4		7.7
	8.5	STQ1HNK60R-AP	0.4		7
	15	STQ1NK60ZR-AP	0.3		4.9
800	16	STQ1NK80ZR-AP*	0.3		5


IPAK



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
-250	2.8	STD3PS25-1	2.5		16
-60	0.2	STD10PF06-1	-10		16
-30	0.028	STD30PF03L-1	-24	0.04	35
	0.0035	STD150NH02L-1	150	0.0065	69
	0.0048	STD100NH02L-1	60	0.009	62
	0.005	STD95NH02L-1*	80	0.009	43
24	0.008	STD70NH02L-1*	60	0.014	32
	0.011	STD55NH2LL-1	40	0.0135	20
	0.009	STD60NH03L-1	60	0.017	
30	0.050	STD17NF03L-1	17	0.060	9.00
55	0.015	STD60NF55L-1	60	0.017	72
60	0.04	STD20NF06L-1	20	0.048	13
	0.10	STD12NF06-1	12		10
	0.10	STD12NF06L-1	12	0.120	12
100	0.4	STD5NE10-1	5		14
200	0.4	STD7NS20-1	7		31
400	1	STD7NK40Z-1	6		20
	1.8	STD5NK40Z-1	4		12


* Coming soon LL = 4.5V drive optimization

IPAK



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
450	4.5	STD2NC45-1	1.5		7
	1.5	STD5NK50Z-1	4.4		20
500	2.7	STD4NK50Z-1	3		12
	3.3	STD3NK50Z-1	2.3		11
600	1	STD5NM60-1	5		13
	2	STD4NK60Z-1	4		19
	3.6	STD3NK60Z-1	3		12.5
	4.8	STD2HNK60Z-1	2		11
	8	STD2NK60Z-1	1.4		7.7
	8.5	STD1NK60-1	1		7
	15	STD1LNK60Z-1	0.8		4.9
700	7	STD2NK70Z-1*	1.6		11.4
800	4.5	STD3NK80Z-1	2.5		18
	16	STD1NK80Z-1*	1		5
900	6.5	STD2NK90Z-1	2.1		19.5


I²SPAK/I²PAK



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
30	0.0032	STB100NF03L-03-1	100	0.0045	160
	0.004	STB80NF03L-04-1	80	0.0055	150
	0.0095	STB70NF03L-1	70	0.018	33
40	0.0037	STB200NF04-1	120		170
	0.0042	STB100NF04L-1	100	0.0065	160
55	0.0065	STB80NF55-06-1	80		140
	0.008	STB80NF55L-08-1	80	0.01	110
	0.08	STB140NF55-1	80		142
75	0.01	STB140NF75-1	140		150
	0.14	STB25NM50N-1	22		40
	0.25	STB20NM50-1	20		40
500	0.27	STB20NK50Z-S ^Δ	18		95
	0.35	STB12NM50-1	12		28
	0.38	STB14NK50Z-1	14		69
	0.4	STB12NM50FD-1	12		27.5
	0.85	STB9NK50Z-1	9		35
	0.17	STB25NM60N-1*	20		
600	0.29	STB20NM60A-1	20		45
	0.42	STB16NK60Z-S ^Δ	14		86
	0.45	STB11NM60-1	11		30
	0.45	STB11NM60FD-1	11		28
	0.55	STB13NK60Z-1	13		66
	0.75	STB10NK60Z-1	10		50


* Coming soon LL = 4.5V drive optimization ^Δ I²SPAK Fast diode version in blue characters

I²SPAK/I²PAK cont'd



V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
600	0.95	STB9NK60Z-1	9		40
	2	STB4NK60Z-1	4		19
650	0.5	STB16NK65Z-S ^Δ	13		89
800	0.75	STB12NK80Z-S ^Δ	11		87

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V _{DSS} [V]	R _{DS(on)} (max) @ 10V [Ω]	Part number	I _{D(cont)} [A]	R _{DS(on)} (max) @ 4.5V or 5V [Ω]	Q _g (typ) @ 10V [nC]
-60	0.2	STP12PF06	-12		10
-55	0.018	STP80PF55	-80		190
24	0.0044	STP130NH02L	90	0.008	69
	0.0036	STP200NF03	120		113
	0.004	STP80NF03L	80		150
30	0.004	STP80NF03L-04	80		150
	0.0065	STP90NF03L	90		62
	0.0095	STP70NF03L	70	22.5	33
	0.0095	STP60NF03L	60	24	40
	0.022	STP40NF03L	40	11	22
	0.05	STP22NF03L	22	5	9
	0.009	STP80NS04ZB	80		80
33	0.015	STP60NS04ZB*	80		48
	0.015	STP62NS04Z	62		34
40	0.0037	STP200NF04	120		170
	0.0046	STP100NF04	120		110
	0.0046	STP120NF04	120		
55	0.0065	STP80NF55L-06	80	0.008	175
	0.0065	STP80NF55-06	80		140
	0.008	STP80NF55-08	80		115
	0.08	STP140NF55	80		142
60	0.008	STP80NF06	80		120
	0.014	STP60NF06L	60		65
	0.016	STP60NF06	60		49
	0.018	STP55NF06	55		45
	0.018	STP55NF06L	55		50
	0.028	STP45NF06	38		43
	0.04	STP36NF06L	30		13
	0.04	STP36NF06	30		23
	0.07	STP20NF06	20		14
	0.07	STP20NF06L	20	0.085	25
	0.1	STP16NF06L	16		12
	0.1	STP16NF06	16		10

* Coming soon Δ I²SPAK

TO-220

V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	Part number	I_D (cont) [A]	$R_{DS(on)}$ (max) @ 4.5V or 5V [Ω]	Q_g (typ) @ 10V [nC]
75	0.008	STP140NF75	140		150
	0.011	STP75NF75	75		117
	0.0105	STP120NF10	120		172
	0.015	STP80NF10	80		135
	0.023	STP60NF10	80		104
	0.028	STP40NF10	40		60
100	0.033	STP40NF10L	40	0.036	60
	0.035	STP35NF10	40		55
	0.045	STP30NF10	35		40
	0.06	STP24NF10	26		30
	0.085	STP22NE10L	22	0.1	45
	0.13	STP14NF10	15		15
120	0.018	STP80NF12	80		140
	0.032	STP40NF12	40		60
	0.180	STP14NF12	14		15
150	0.052	STP40NS15	40		100
	0.045	STP40N20*	40		75
	0.125	STP20N20*	18		28
200	0.18	IRF640	18		55
	0.4	IRF630	9		31
	0.4	STP10NB20	10		17
250	0.15	STP22NS25Z	20		120
	0.28	STP16NS25	16		59
	0.45	STP8NS25	8		37
300	0.40	STP12NK30Z	9		30
	0.90	STP7NK30Z	5.7		15
400	0.25	STP17NK40Z	15		69
	0.55	STP11NK40Z	9		30
	1.0	STP7NK40Z	6		20
	1.80	STP5NK40Z	4		12
	0.14	STP25NM50N*	22		40
500	0.25	STP20NM50FD	20		38
	0.25	STP20NM50	20		40
	0.27	STP20NK50Z	18		95
	0.34	STP15NK50Z	14		76
	0.35	STP12NM50	12		28
	0.38	STP14NK50Z	14		69
	0.4	STP12NM50FD	12		27.5
	0.52	STP11NK50Z	10		49
	0.8	STP8NM50	7.5		13
	0.85	STP9NK50Z	9		35
	1.2	STP6NK50Z	5.6		24.6
	1.5	STP5NK50Z	4.4		20
	2.7	STP4NK50Z	3		12

* Coming soon * STripFET technology Fast diode version in blue characters

TO-220 cont'd.



V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	Part number	I_D (cont) [A]	$R_{DS(on)}$ (max) @ 4.5V or 5V [Ω]	Q_g (typ) @ 10V [nC]
600	0.17	STP25NM60N*	20		
	0.29	STP20NM60A	20		45
	0.29	STP20NM60FD	20		40
	0.29	STP20NM60	20		39
	0.42	STP16NK60Z	114		86
	0.45	STP11NM60	11		30
	0.45	STP11NM60FD	11		28
	0.5	STP14NK60Z	13.5		75
	0.55	STP13NK60Z	13		66
	0.75	STP10NK60Z	10		50
	0.95	STP9NK60Z	9		40
	0.95	STP9NK60ZD	7		41
	1	STP8NM60	8		13
	1.2	STP6NK60Z	6		33
	1.6	STP5NK60Z	5		25
	2	STP4NK60Z	4		19
	3.6	STP3NK60Z	3		12.5
	8	STP2NK60Z	1.4		7.7
650	0.5	STP16NK65Z	13		89
	1.2	STP9NK65Z	7		41
	1.8	STP5NK65Z	5		31
700	0.85	STP10NK70Z	8		60
	1.20	STP9NK70Z	7.5		48
	1.80	STP6NK70Z	4.9		33
800	0.4	STP11NM80	11		40
	0.75	STP12NK80Z	10.5		87
	0.9	STP10NK80Z	9		72
	1.5	STP8NK80Z	6.2		50
	1.8	STP7NK80Z	5.2		40
	2.4	STP5NK80Z	4.3		32.4
	3.5	STP4NK80Z	3		22.5
	4.5	STP3NK80Z	2.5		18
900	1.3	STP9NK90Z	8		72
	2	STP6NK90Z	6		50
	2.5	STP5NK90Z	4.5		41.5
	4.2	STP3HNK90Z	3		26
	4.8	STP3NK90Z	2.8		25
	6.5	STP2NK90Z	2.1		19.5
1000	3.70	STP5NK100Z	3.5		40
1500	7.00	STP4N150* #	4		50

* Coming soon Fast diode version in blue characters # Very high voltage PowerMESH technology

T0-220FP

V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V or 5V [Ω]	Q_g (typ) @ 10V [nC]
-60	0.20	STF12PF06	-60		16
55	0.0065	STP80NF55-06FP	60		140
	0.016	STP60NF06FP	37		49
	0.018	STP55NF06FP	32		45
60	0.04	STP36NF06FP	18		23
	0.07	STF20NF06L	20	0.085	25
	0.07	STF20NF06	20		14
	0.1	STP16NF06FP	16		10
75	0.011	STP75NF75FP	40		117
100	0.015	STP80NF10FP	80		140
	0.018	STP80NF12FP	80		140
120	0.077	STF24NF12	24		
	0.180	STP14NF12FP	14		15
150	0.100	STP30NS15LFP	14	0.112	70
	0.125	STF20N20 ^o	18		28
200	0.18	IRF640FP	18		55
	0.4	IRF630FP	9		31
250	0.28	STP16NS25FP	16		59
300	0.90	STF7NK30Z	5.7		15
	0.25	STP17NK40ZFP	15		69
400	0.55	STP11NK40ZFP	9		30
	1.00	STP7NK40ZFP	6		20
	1.80	STP5NK40ZFP	4		12
	0.14	STF25NM50N*	22		40
	0.25	STP20NM50FP	20		40
	0.25	STF20NM50D	20		38
	0.34	STP15NK50ZFP	14		76
	0.35	STP12NM50FP	12		28
	0.38	STP14NK50ZFP	14		69
500	0.4	STP12NM50FDFP	12		27.5
	0.52	STP11NK50ZFP	10		49
	0.8	STP8NM50FP	7.5		13
	0.85	STP9NK50ZFP	9		35
	1.2	STF6NK50Z	5.6		24.6
	1.5	STP5NK50ZFP	4.4		20
	2.7	STP4NK50ZFP	3		12
	0.17	STF25NM60N*	20		
600	0.29	STF20NM60D	20		40
	0.29	STF20NM60A	20		45
	0.29	STP20NM60FP	20		39

* Coming soon ^o STripFET technology Fast diode version in blue characters # Very high voltage PowerMESH technology

T0-220FP cont'd



V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V or 5V [Ω]	Q_g (typ) @ 10V [nC]
600	0.45	STP11NM60AFP	11		30
	0.45	STP11NM60DFP	11		28
	0.45	STP11NM60FP	11		30
	0.5	STP14NK60ZFP	13.5		75
	0.55	STP13NK60ZFP	13		66
	0.75	STP10NK60ZFP	10		50
	0.95	STP9NK60ZFP	9		40
	0.95	STF9NK60ZD	7		41
	1	STP8NM60FP	8		13
	1.2	STP6NK60ZFP	6		33
	1.6	STP5NK60ZFP	5		25
	2	STP4NK60ZFP	4		19
	3.6	STP3NK60ZFP	3		12.5
	4.8	STF2HNK60Z	2		11
	8	STF2NK60Z	1.4		7.7
650	0.90	STP9NC65FP	8		44
	1.20	STP9NK65ZFP	7		41
700	0.85	STP10NK70ZFP	8		60
	1.20	STP9NK70ZFP	7.5		48
	1.80	STF6NK70Z	4.9		33
800	0.4	STF11NM80	11		40
	0.9	STP10NK80ZFP	9		72
	1.5	STP8NK80ZFP	6.2		50
	1.8	STP7NK80ZFP	5.2		40
	2.4	STP5NK80ZFP	4.3		32.4
	3.5	STP4NK80ZFP	3		22.5
	4.5	STF3NK80Z	2.5		18
900	1.3	STF9NK90Z	8		72
	2	STP6NK90ZFP	6		50
	2.5	STF5NK90Z	4.5		41.5
	4.2	STF3HNK90Z	3		26
	4.8	STP3NK90ZFP	2.8		25
1000	3.70	STF5NK100Z	3.5		40
1500	7.00	STF4N150* #	4		50

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V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V or 5V [Ω]	Q_g (typ) @ 10V [nC]
30	0.0028	STW200NF03	120		225
55	0.0035	STW240NF55	120		350
	0.006	STW150NF55	120		140

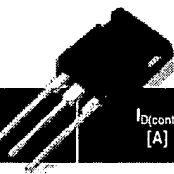
* Coming soon Fast diode version in blue characters # Very high voltage PowerMESH technology

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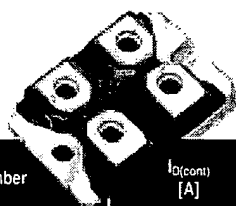
V_{DS} [V]	$R_{DS(on)}$ (max) @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}$ (max) @ 4.5V or 5V [Ω]	Q_g (typ) @ 10V [nC]
55	0.008	STW80NF55-08	80		115
75	0.0044	STW220NF75	120		360
200	0.045	STW40N20* \diamond	40		75
250	0.045	STW52NK25Z	52		200
300	0.060	STW54NK30Z*	54		190
	0.1	STW45NM50	45		87
	0.1	STW45NM50FD	45		92
	0.12	STW26NM50	30		76
	0.13	STW29NK50Z	31		190
	0.14	STW25NM50N*	22		40
	0.15	STW29NK50ZD*	29		180
500	0.25	STW20NM50	20		40
	0.25	STW20NM50FD	20		38
	0.27	STW20NK50Z	18		95
	0.34	STW15NK50Z	14		76
	0.35	STW14NM50	12		28
	0.38	STW14NK50Z	14		69
	0.4	STW14NM50FD	14		27.5
	0.11	STW45NM60	45		96
	0.135	STW26NM60	30		73
	0.145	STW30NM60D	30		73
	0.185	STW28NK60Z	27		189
	0.29	STW20NM60	20		96
600	0.29	STW20NM60FD	20		40
	0.36	STW18NK60Z	16		106
	0.42	STW16NK60Z	14		86
	0.5	STW14NK60Z	13.5		75
	0.55	STW13NK60Z	13		66
	0.75	STW10NK60Z	10		50
700	0.3	STW20NK70Z	19		220
	1.2	STW9NK70Z	7.5		48
	0.38	STW18NK80Z	17		220
	0.4	STW11NM80	11		40
800	0.65	STW13NK80Z	12		120
	0.75	STW12NK80Z	10.5		87
	0.9	STW10NK80Z	9		72
	1.5	STW8NK80Z	6.2		50
	0.55	STW15NK90Z	14.5		220
	0.88	STW12NK90Z	11		120
900	0.98	STW11NK90Z*	9.2		80
	1.3	STW9NK90Z	8		72
	2	STW7NK90Z	6		50
	0.7	STW13NK100Z	12		220
1000	1.38	STW11NK100Z	10.5		120
	4.4	STW5NB100	4.8		32
1500	7	STW4N150* #	4		50

* Coming soon \diamond STripFET technology Fast diode version in blue characters # Very high voltage PowerMESH technology

Max247



V_{DS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(yp)$ @ 10V [nC]
100	0.01	STY140NS10	140		450
200	0.024	STY100NS20FD	100		360
300	0.045	STY60NK30Z	60		220
500	0.05	STY60NM50	60		190
600	0.055	STY60NM60	60		178
900	0.3	STY30NK90Z	26		390



ISOTOP

V_{DS} [V]	$R_{DS(on)}(max)$ @ 10V [Ω]	Part number	$I_{D(cont)}$ [A]	$R_{DS(on)}(max)$ @ 4.5V or 5V [Ω]	$Q_g(yp)$ @ 10V [nC]
100	0.0055	STE250NS10	200		900
	0.0060	STE180NE10	180		142
200	0.024	STE110NS20FD	110		360
500	0.05	STE70NM50	70		190
	0.08	STE53NC50	53		310
	0.1	STE48NM50	48		87
	0.055	STE70NM60	70		178
600	0.135	STE40NC60	40		
800	0.13	STE45NK80ZD	45		558
900	0.17	STE40NK90ZD	40		700
	0.3	STE30NK90Z	30		390

* Coming soon Fast diode version in blue characters

MOSFETs part numbering scheme

				ST	P	70	N	F	03	L
Package type										
C	TSSOP8	Q	T0-92							
T	SOT23-6L	D...-1	IPAK							
N	SOT23-3L	B...-1	I ² PAK							
L	PowerFLAT	B...-S	I ² SPAK							
K	PolarPak	P	T0-220							
SJ	PowerSO-8	P...FP	T0-220FP							
S	SO-8	F	T0-220FP for new products							
D...T4	DPAK (Tape & Reel)	W	T0-247							
B...T4	D ² PAK (Tape & Reel)	Y	Max247							
Z	p ² PAK	E	ISOTOP							
V	PowerSO-10									
Indicative current range										
Channel polarity										
N	N-Channel	DN or	Dual N-Ch							
P	P-Channel	DP	or Dual P-Ch							
		C	Complementary pair							
Technology (optional)										
E	EHD1 (STripFET 1st gen)	B	PowerMESH I							
F	EHD2 (STripFET 2nd gen)	C	PowerMESH II							
H	EHD3 (STripFET 3rd gen)	C	PowerMESH III							
HS	EHD3 + MONOLITHIC Schottky diode	K	SuperMESH							
FS	EHD2 + Schottky diode	M	MDmesh							
S	PowerMESH medium voltage	M...N	MDesh II							
Breakdown voltage divided by 10										
With the exception of:										
• 55V and 75V										
• TSSOP8, SOT23-6L, SO-8										
Special features										
L	Logic level, 10V drive optimized	FD	Fast diode 'D' for new products							
LL	Logic level, 4.5V drive optimized	T	Temperature sensing							
V	Super logic level (2.5 ÷ 2.7V drive)	Z	Back-to-back zener diode							



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Full product information at www.st.com

Order code: SGPMOSFET0505

